LISTING SHOWING THE AMENDMENT TO THE CLAIMS

This listing replaces all prior listings of claims.

IN THE CLAIMS

Amend the claims as follows:.

1 (Currently amended). An organic capacitor having voltage controlled capacitance, comprising:

at least the following functional layers:

- a first electrode, a second electrode[[,]]; and
- an insulator layer ~~disposed~~ between the first and second electrodes in direct ohmic contact with the first electrode[[,]]; wherein
- at least one first semiconductor layer is ~~located~~ between the first and second electrodes in direct ohmic contact with the second electrode and with the insulator layer[[,]]; and wherein
- the concentration of free charge carriers in at least said first semiconductor layer is varied in a controlled manner by application of a voltage between said first and second electrodes[[,]];
- the concentration of said charge carriers determining the capacitance of the capacitor[[,]]; and
- the concentration of said free charge carriers in at least said first semiconductor layer is additionally varied in a controlled manner by a frequency of the applied voltage.

2 (Previously presented). An organic capacitor as defined in claim 1, wherein the variation of the concentration of said free charge carriers results in a variation of an effective spacing (a) of the electrodes serving as capacitor plates, and said effective spacing (a) functionally determines the capacitance.

3 (Previously presented). An organic capacitor as defined in claim 2 wherein the variation of the concentration of said free charge carriers results in a variation of an effective plate surface area, and said effective plate surface area functionally determines the capacitance.

4 (Previously presented). An organic capacitor as defined in claim 1 wherein at least one of said first and second electrodes is a structured electrode.

5 (Previously presented). An organic capacitor as defined in claim 4 wherein the at least one structured electrode is embedded in said semiconducting layer.

6 (Previously presented). An organic capacitor as defined in claim 1 wherein said organic capacitor comprises a second semiconductor layer located between said first and second electrodes and disposed on one of the sides of said insulator layer opposite said first semiconductor layer, the concentration of said free charge carriers in said second semiconductor layer being varied in a controlled manner by applying a voltage between said first and second electrodes.

7(Previously presented). An organic capacitor as defined in claim 6, wherein said first and second semiconducting layers are of opposed conductance types.

8 (Previously presented). An organic capacitor as defined in claim 6 wherein at least one of said first and second electrodes is a structured electrode and the at least one structured electrode is embedded in at least one of said first and second semiconductor layers.

9 (Previously presented). An organic capacitor as defined in claim 1 wherein at least one of said functional layers is a layer of an organic substance.